

FIG. 1

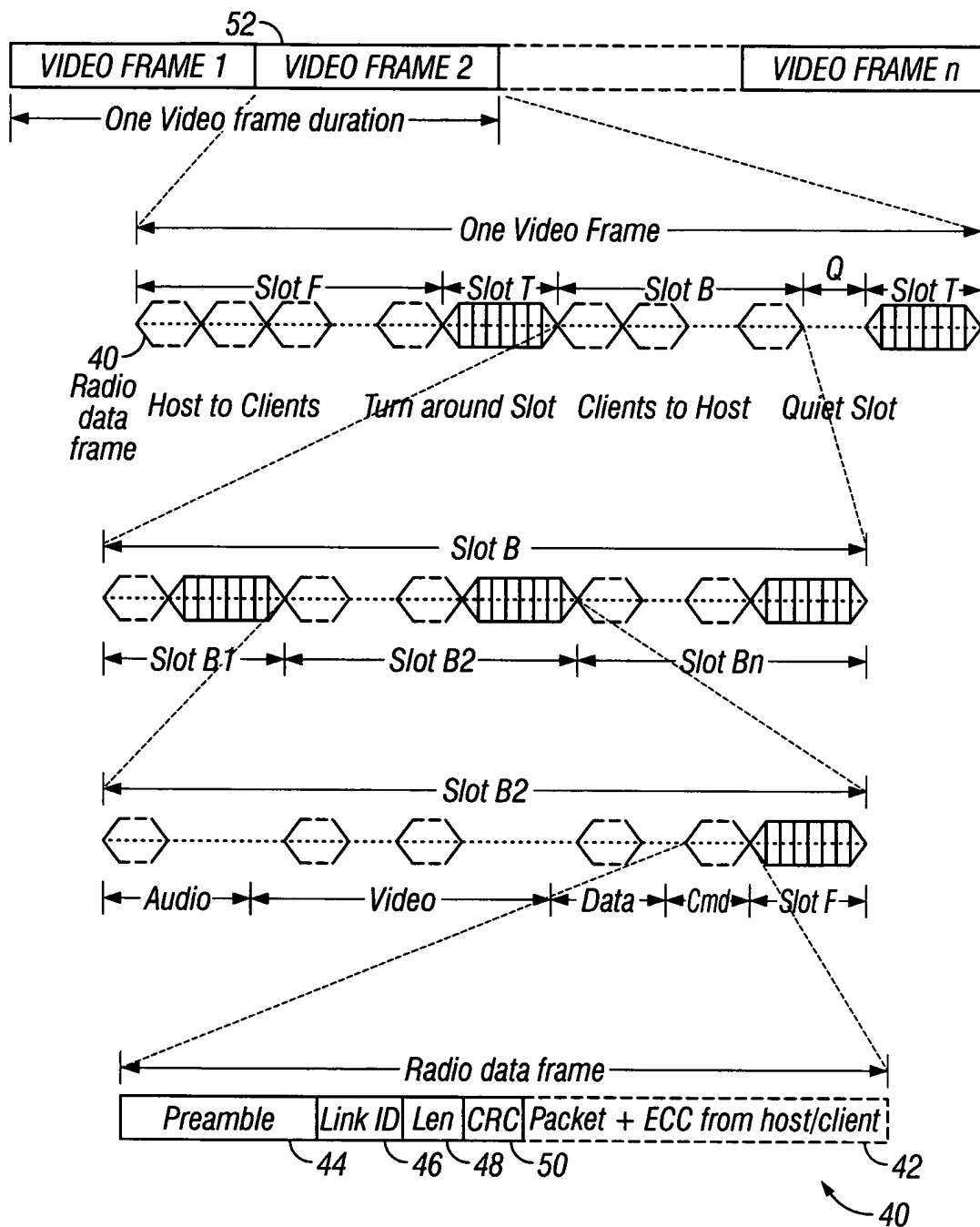
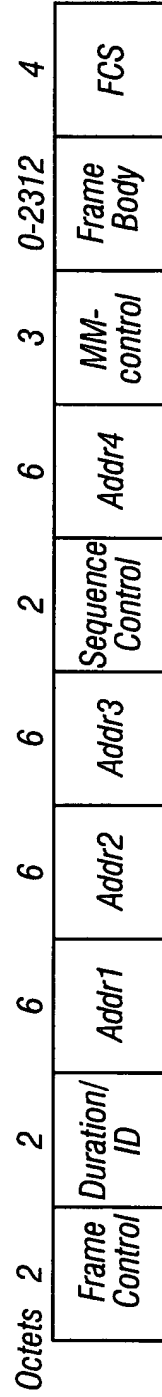


FIG. 2



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(a) Multimedia frame format

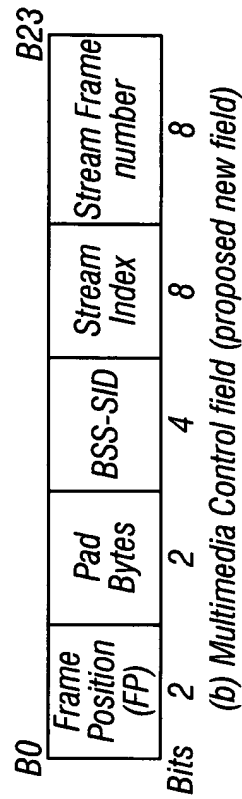


FIG. 3

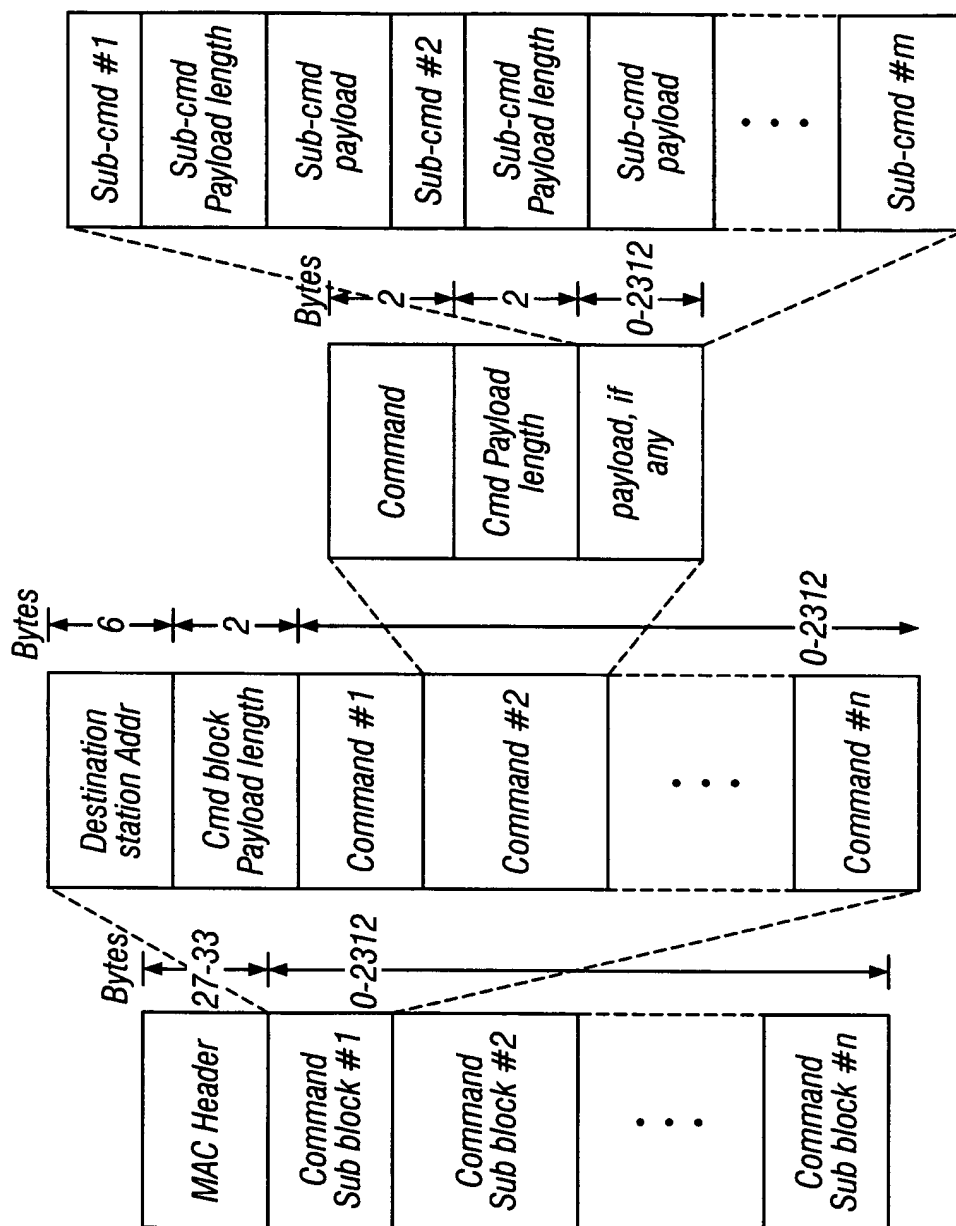


FIG. 4

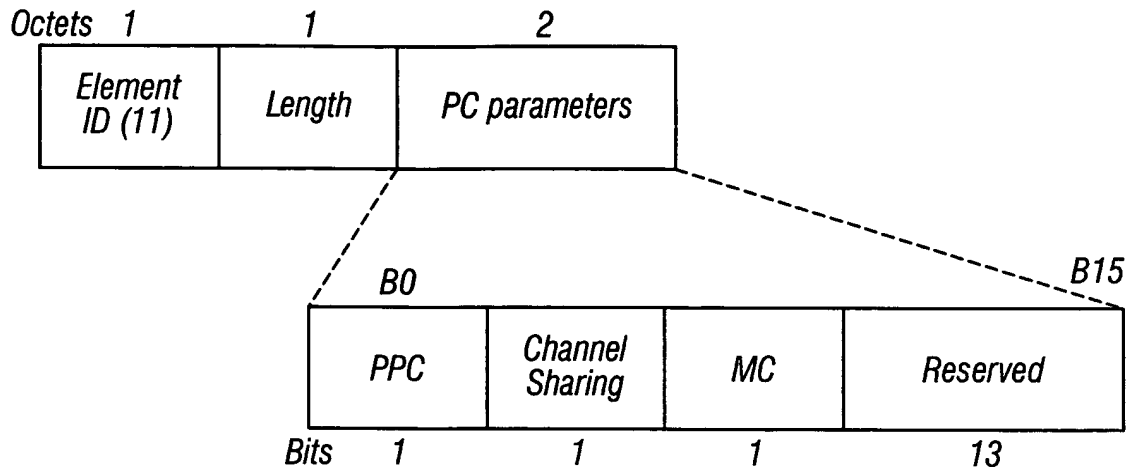


FIG. 5

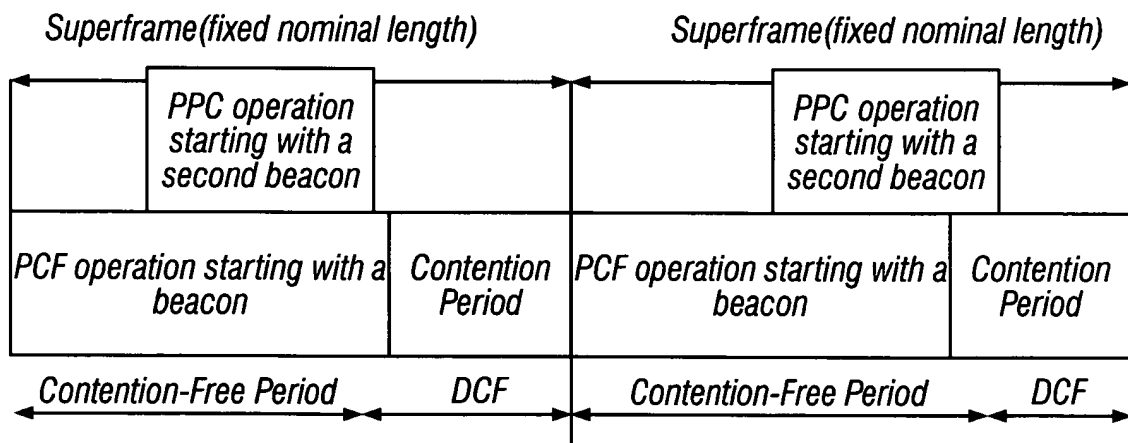


FIG. 6

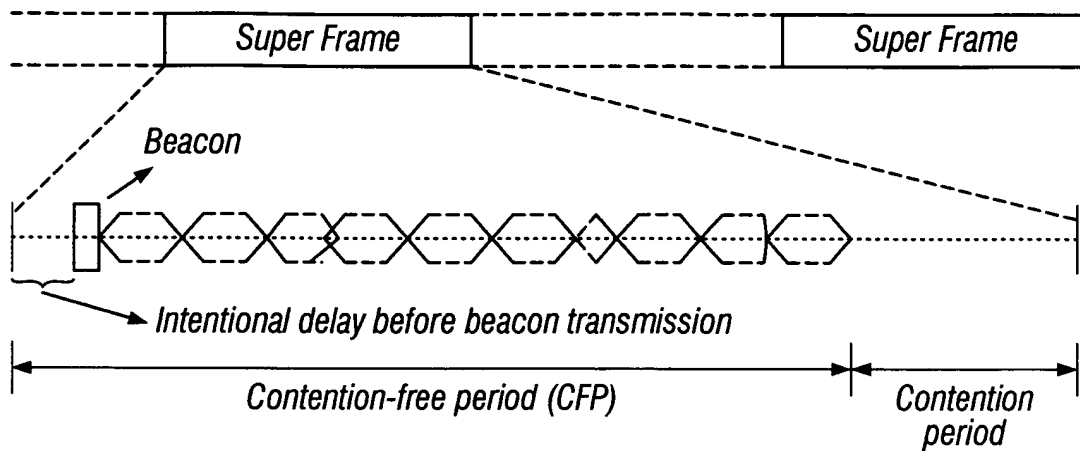


FIG. 7

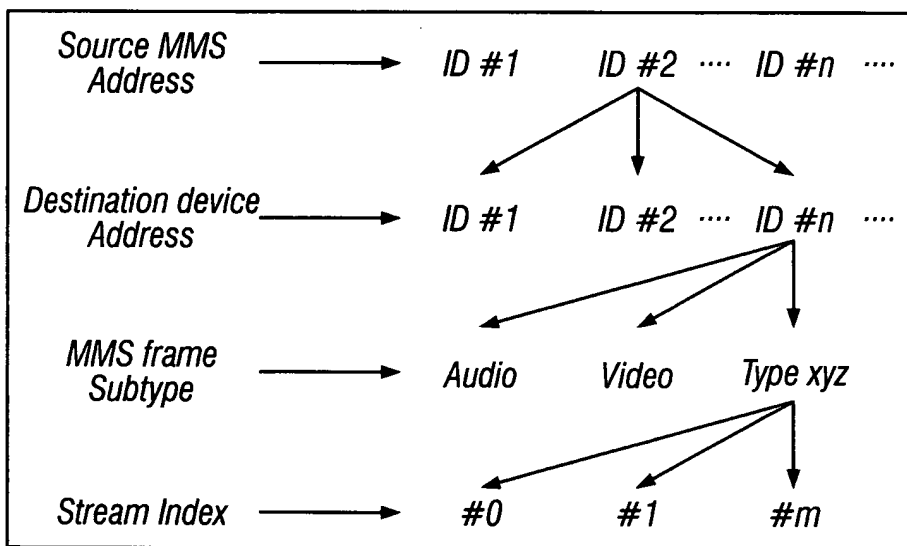
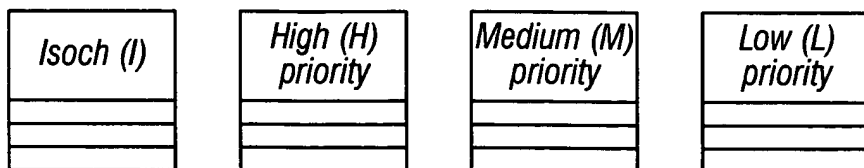


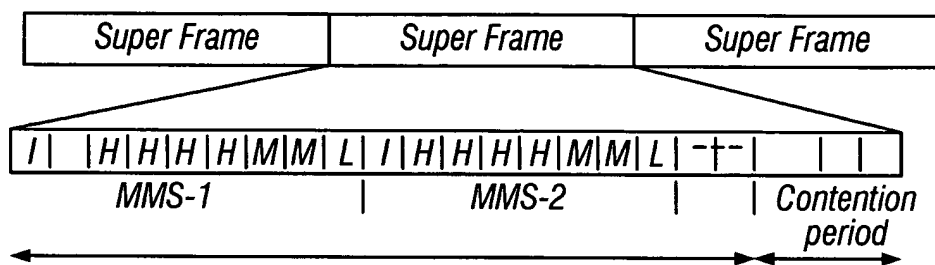
FIG. 8



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(a) Data for packets are collected and sorted into buffer queues according to payload differentiation



(b) Packets are then transmitted according to an arbitration scheme

FIG. 9

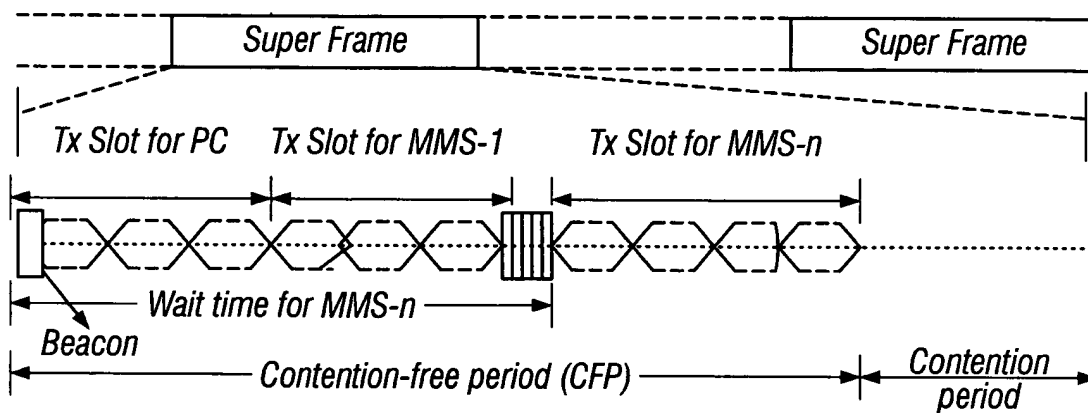


FIG. 10

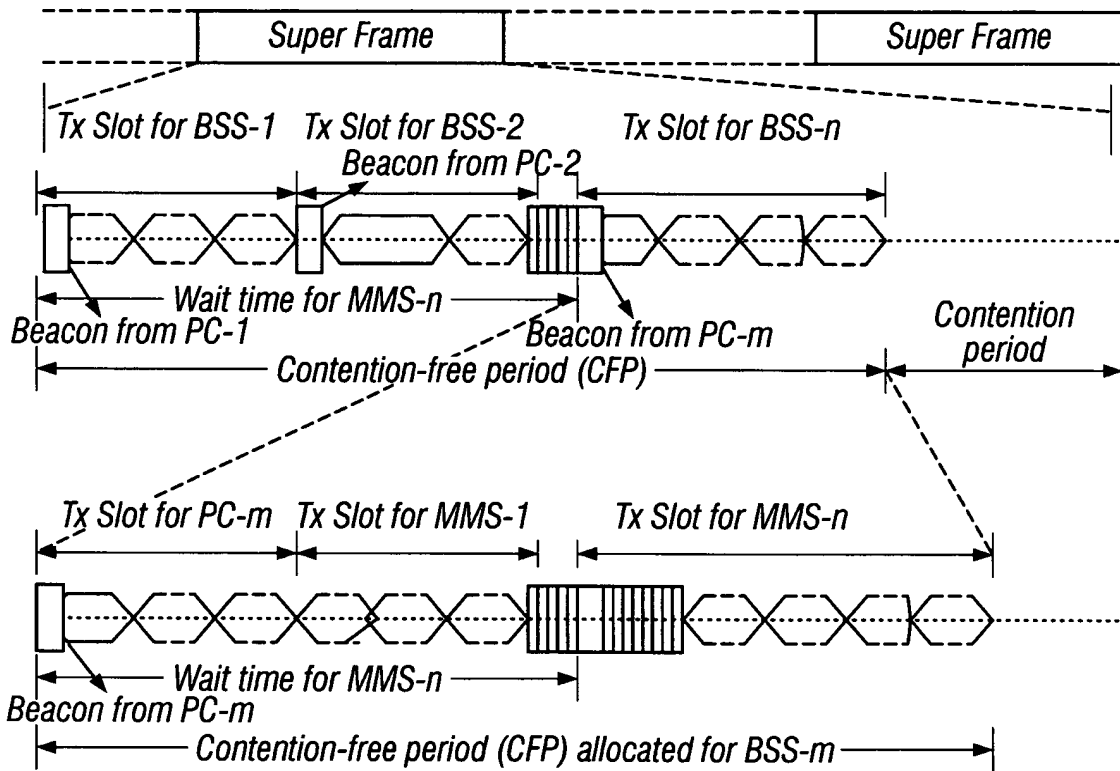
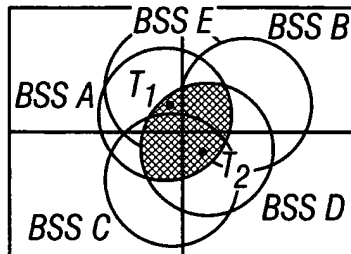
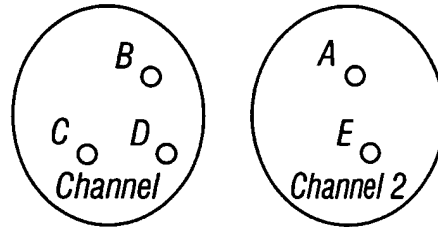


FIG. 11





**FIG. 12A**

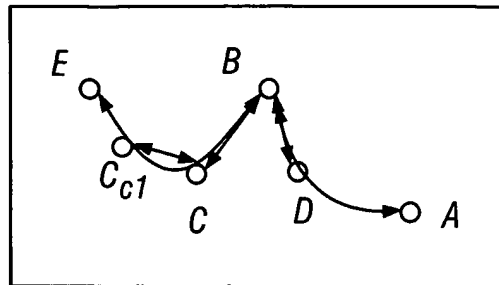


**FIG. 12B**

- BBS B comes up first and assumes all zero BSS-SID in channel 1 with 10% bandwidth utilization
- BBS A comes up first and assumes all zero BSS-SID in channel 2 with 80% bandwidth utilization
- BSS D comes up :
  - Detect both channels being busy
  - Detect channel-1 with low bandwidth utilization and
  - Requests 30% bandwidth in one channel-1
  - BSS B and D share Channel 1 with 10% and 30% bandwidth usage respectively
- BSS C comes up:
  - Detect both channels being busy
  - Detect channel-1 with low bandwidth utilization and
  - Requests 40% bandwidth in one channel-1
  - BSS B, C and D share channel 1 with 10%, 40% and 30% bandwidth usage respectively
- BSS E (not shown in picture) comes up:
  - Detects both channels being busy
  - Detects channel-1 and channel-2 with approximately same bandwidth utilization
  - Detects channel-2 with lower number of BSSs
  - Request 40% bandwidth in channel-2
  - BSS A and E share Channel 2 with 60% and 40% bandwidth usage respectively

**FIG. 12**

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- BSS B comes up first and assumes all zero BSS-SID
- BSS D comes up next and requests bandwidth sharing with B
- BSS D comes up next and requests bandwidth sharing with B and D
- BSS A comes up:
  - BSS B can not detect A and/or A can not detect B
  - BSS D detects both and reports to B that A is operating in the same channel
  - B and D to be proxy coordinator and send response to the request of D for bandwidth sharing
  - D acts as tunnel between B and A
  - A gets a invitation from B to join the already group existing group B, C and D
  - A gets assigned an BSS-SID and the synchronization parameters with respect to D's transmission of beacon
- BSS E comes up:
  - Except  $C_{c1}$ , no other device can detect E and or otherwise
  - E tries to use another channel and fails
  - There is only one option to E and that is to join the same group formed above, else it will be interfering with  $C_{c1}$
  - $C_{c1}$  detects request from E and reports to C that E is operating in the same channel
  - C tunnels the information to B
  - B assigns  $C_{c1}$  to be proxy coordinator and sends request to C for permission
  - C agrees to the request and provides the permission
  - C and  $C_{c1}$  together form a tunnel between B and E
  - E gets assigned an BSS-SID and the synchronization parameters with respect to  $C_{c1}$ 's transmission of first packet

FIG. 13